

REMARKS

This Amendment is in response to the final office action of May 14, 2003. In the office action the Examiner rejected claims 1, 2, 4-13, 17-28, 30-33, 35 and 36, and withdrew claims 29 and 34.

The Examiner first withdraw claims 29 and 34 from consideration as belonging to species II. Applicants cancel independent claim 29 without prejudice. Applicants assert the allowability of claim 34 if generic claim 32 on which it depends is allowed.

The Examiner first rejected claims 11, 13, 17, 18, 20 and 30 under 35 USC 102 (b) has been anticipated by *Jenkins*.

The Examiner next rejected claims 1, 4, 9-11, 18, 20-22, 27, 30 and 31 under 35 USC 102 (b) as being anticipated by *Balzer*.

The Examiner next rejected claims 1, 4 and 8 under 35 USC 103 as being unpatentable over *Jenkins* in view of *Balzer*.

The Examiner next rejected claims 28, 32, 33, 35 and 36 under 35 USC 103 as being unpatentable over *Jenkins* in view of admitted prior art.

The Examiner next rejected claims 2, 7 19 and 24 under 35 USC 103 as being unpatentable over *Balzer* in view of *Hein et al.*

The Examiner next rejected claims 5 and 12 under 35 USC 103 as being unpatentable over *Balzer* in view of *Harada et al.*

The Examiner next rejected claims 6 and 23 under 35 USC 103 as being unpatentable over *Harada et al.* in view of *Peterson*.

Applicants submit that none of the references cited above in any of the rejections disclose or suggest, alone or in combination, a single control lever that is arranged to selectively operate an operator-selected one of *either* a front or a rear mounted implement. Utility tractors equipped with front loader buckets and rear-mounted implements, such as hydraulically adjusted cultivators or rear blades, typically utilize a first hydraulic control valve for controlling the movement of the front loader bucket, and a separate second hydraulic control valve for operating the rear-mounted implement. The first control valve is operated by a first control lever. The second hydraulic control valve is operated by a separate, second control lever.

When an operator uses a vehicle having such a rear-mounted implement, the second lever and placement of the hand on the second lever are required to operate the rear-mounted implement. Moving the hand from one lever to another lever reduces productivity of the utility vehicle. Also, the first lever and the second lever are typically placed on the vehicle fender and must have cables and/or linkages that connect the levers to the primary and secondary valves, which adds complication to the utility vehicle design.

The present invention provides a *single* control lever to operate multiple implements on a multi-functional vehicle, particularly a front-mounted implement and alternatively a rear-mounted implement. The present invention can conserve usable space in the vehicle operating area by eliminating the need for the second control lever.

In contrast, *Jenkins* describes a utility vehicle having separate control levers for front and back implement operation. The loader boom and bucket levers 24 and 25 are mounted on the steering column (see column 2, lines 29 – 33, Figure 1), which puts these levers in a conventional position for operating a front-mounted implement, while the backhoe levers 30 to 33 are located behind the seat (see column 2, lines 37 – 41, Figure 1), which puts these levers in a conventional position for operating a rear-mounted implement.

Harada et al. describes a joystick operation that controls a diverter to differentiate between two cylinders, but both cylinders are at the front end of the loader. *Harada et al.* does not disclose a single lever selectable control of either a front-mounted or rear-mounted implement.

Balzer describes a utility vehicle wherein the selectable hydraulic cylinders are associated with only one implement such as a bulldozer blade, a scraper or ripper. *Balzer* specifically describes, in each instance, the provision of operating *one implement* having plural jacks, wherein different jacks on the implement can be selectively adjusted. *Balzer* asserts the advantage of the patented invention is the fact that only two hydraulic conduits bridge a connection between the tractor and the implement wherein multiple jacks on the implement can still be controlled. The use of a selective arrangement to control both a front and rear mounted implement using a single control lever is not contemplated.

As stated at column 1, lines 26-40 of *Balzer*:

"The components of tractor-driven implements are often driven or adjusted hydraulically. For example, a bulldozer blade may have jacks to cause it to angle, tilt or pitch, and it may have jacks to raise and lower

ripper shanks, one of which is adjustably carried at each end of the blade. Similarly, rippers which are drawn behind a tractor have jacks to raise and lower the ripper shanks and to control their angle of entry into the earth. Hydraulic lines, generally in the form of flexible hoses, must cross the connection between a tractor and the implement for supplying fluid under pressure to all of these jacks. Such lines are costly and subject to a high rate of failure because of the environment in which they are used."

The problem set forth in *Balzer* is the necessity of using multiple hydraulic line pairs to feed multiple jacks for a single implement, either a bulldozer blade or a ripper, and the vulnerability of those hydraulic lines when bridging between tractor and implement.

As stated at column 1, lines 40-45 of *Balzer*:

"It is an object of the present invention to provide a system for supplying actuating fluid selectively to any one of several jacks on an implement from a pressure source on a connected tractor, with no more than two pressure lines, bridging the connection between the tractor and implement...."

The problem in *Balzer* is proposed to be solved by using a selection arrangement between the several jacks of a single implement that only requires one pair of hydraulic lines bridging between the tractor and the implement.

As stated at column 1, lines 50-63 of *Balzer*:

"Further and more specific objects and advantages of the invention and the manner in which they are carried into practice are made apparent in the following specification by reference to the accompanying drawing.

The drawing is a schematic view of the hydraulic and electrical circuitry on a bulldozer having three

separate hydraulic jacks actuated by a system embodying the present invention.

The drawing shows a circuit which includes means to tilt a bulldozer blade and means to raise and lower ripper shanks, one of which is disposed at each end of the blade. However, this is presented only as typical arrangement since the same system may be used on other types of bulldozers or rippers, as well as various other implements....

As a consequence of the system described above, several separate hydraulic motors on an implement can, through simple circuitry, be actuated from a remote tractor operator's station, with only two hydraulic conduits and one or more electric conductors bringing a connection between the tractor and the implement...."

The example set forth in the specification of *Balzer* is a single implement, a bulldozer blade, having plural jacks wherein a selection circuit can be used to operate the multiple jacks while bridging between the tractor and implement with only one pair of hydraulic conduits.

Thus in reviewing *Balzer* as a whole, it is nowhere suggested that two different implements, one front-mounted and one rear-mounted, can be selectively controlled using a single control lever and an operator-controllable diverter valve.

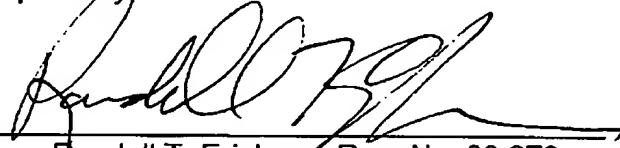
Hein et al. describes a hydraulic circuit for operating two rear-mounted implements. *Peterson et al.* describes the lever control of a rear-mounted scraper having multiple fluid jacks. Neither of these references describes the single lever control of both a front-mounted and a rear-mounted implement.

These references do not disclose or suggest the use of a single control lever to operator-selectively control alternately a front-mounted and a rear-mounted implement.

Applicants assert that the rejections of claims 1, 2, 4-13, 17-28, 30-33, 35 and 36 have been overcome and that all claims are now in condition for allowance.

Respectfully submitted

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